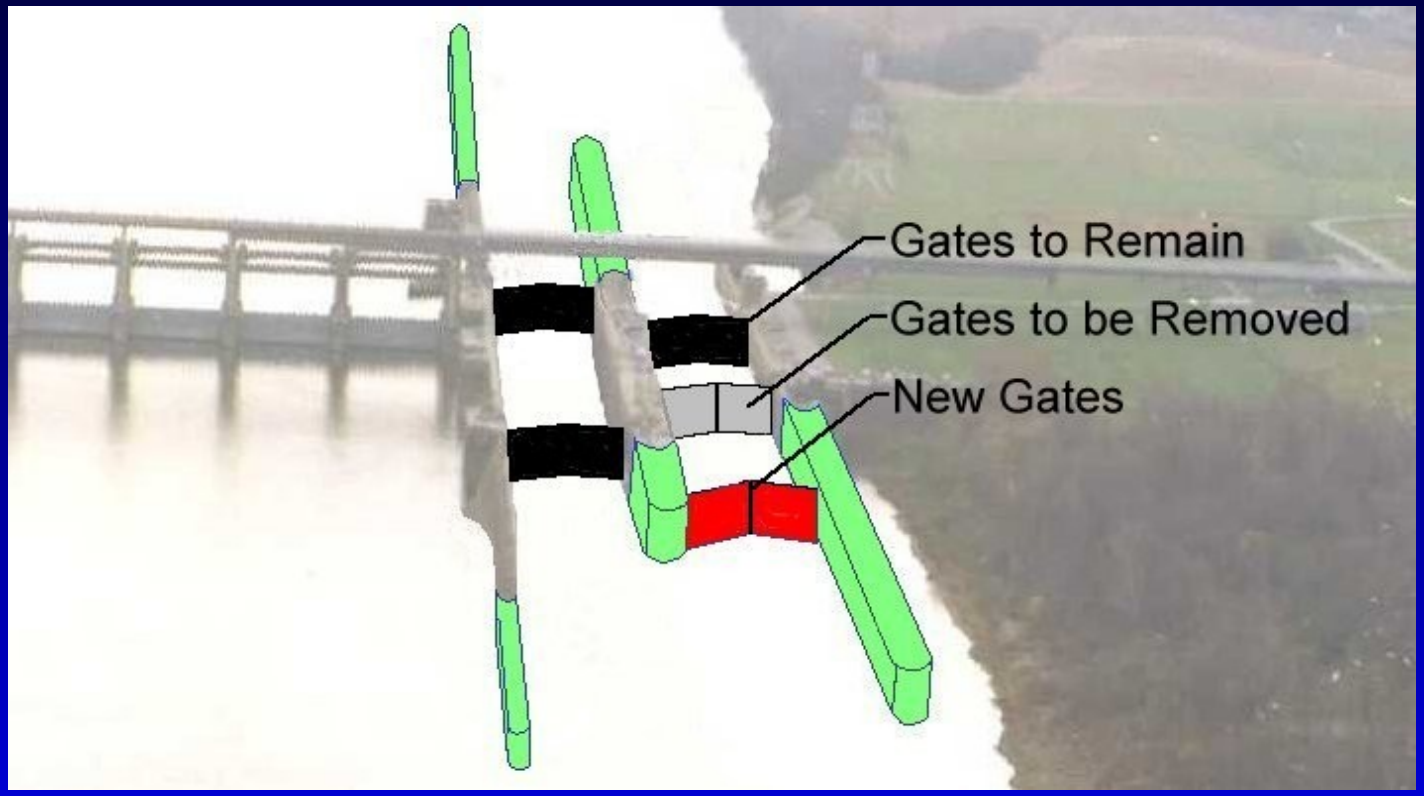
Coastal and Hydraulics Laboratory

Greenup Locks and Dam, Ohio River

Coastal and Hydraulics Laboratory

Proposed Plan



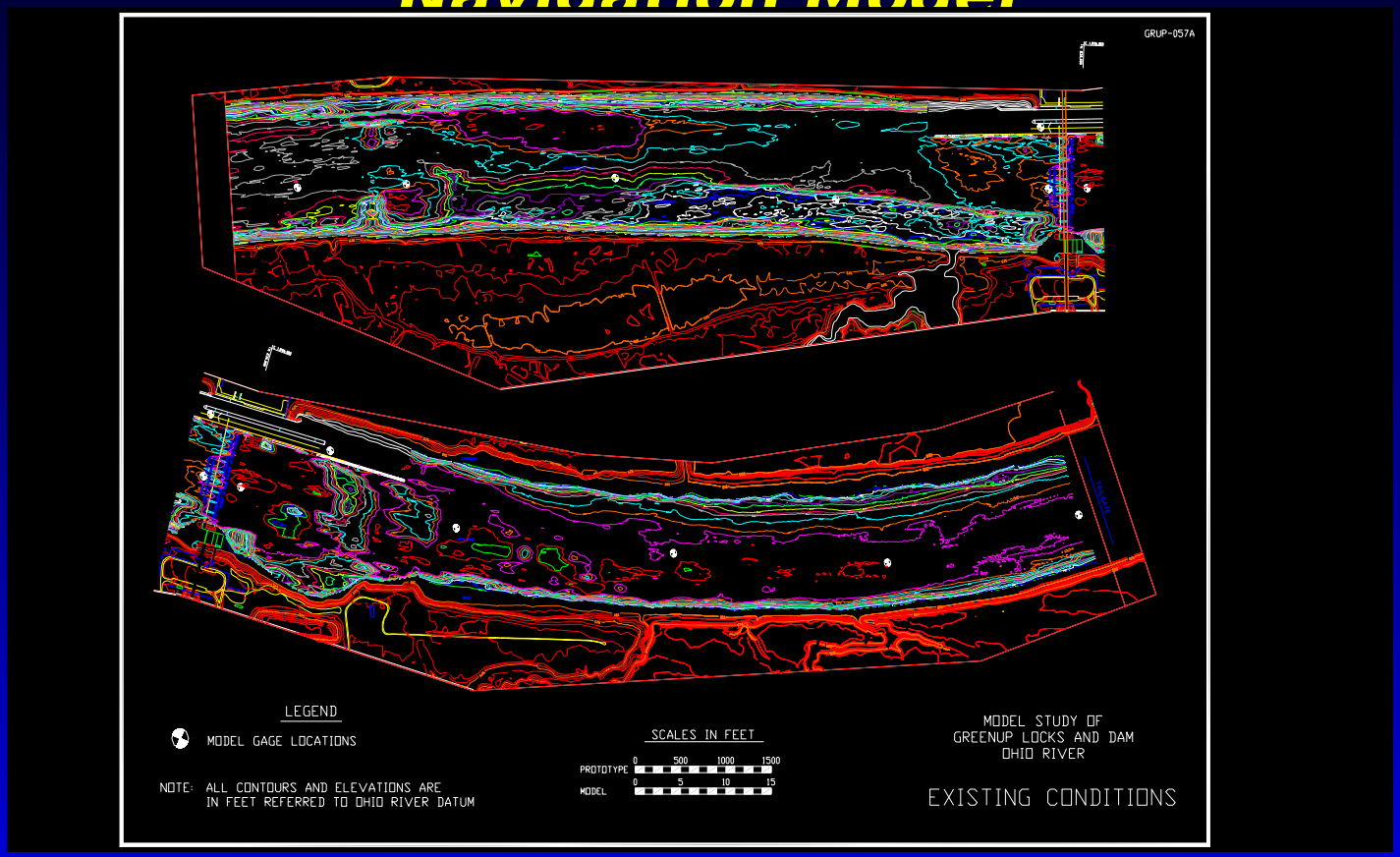
Coastal and Hydraulics Laboratory

Navigation Model

- *1 : 100 Scale Physical Model*
- *Reproduces 4 Miles of Ohio River from River Mile 339 to River Mile 343*
- *Structures Reproduced:*
  - *110’ by 1200’ “Main” Lock*
  - *110’ by 600’ “Auxiliary” Lock*
  - *9-Bay Gated Spillway*
  - *3-Unit Powerhouse*

Coastal and Hydraulics Laboratory

Navigation Model



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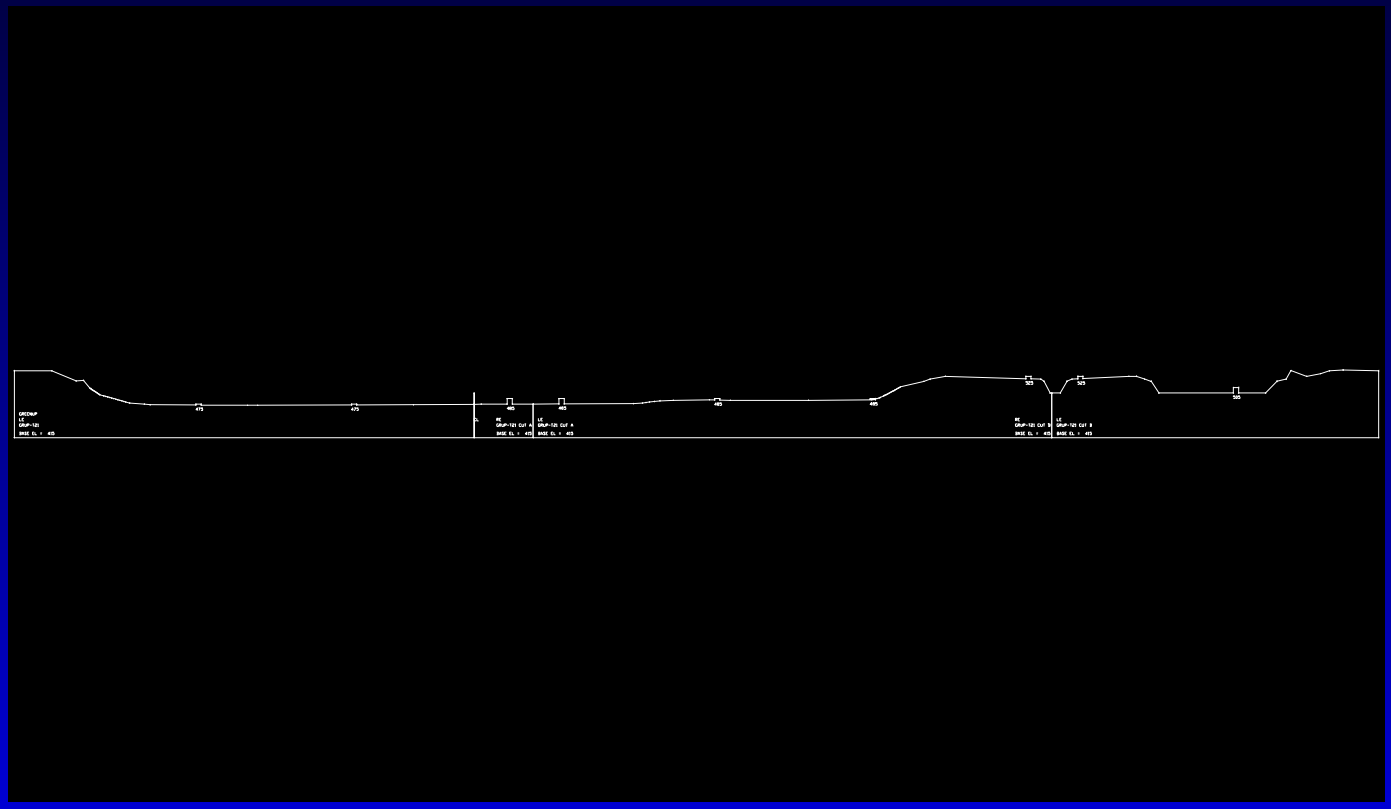
Model Construction



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Model Construction

Coastal and Hydraulics Laboratory

Model Construction

Coastal and Hydraulics Laboratory

Model Construction

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Water Supply

Coastal and Hydraulics Laboratory

Discharge Measurement

Coastal and Hydraulics Laboratory

Discharge Measurement

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Tailwater Control

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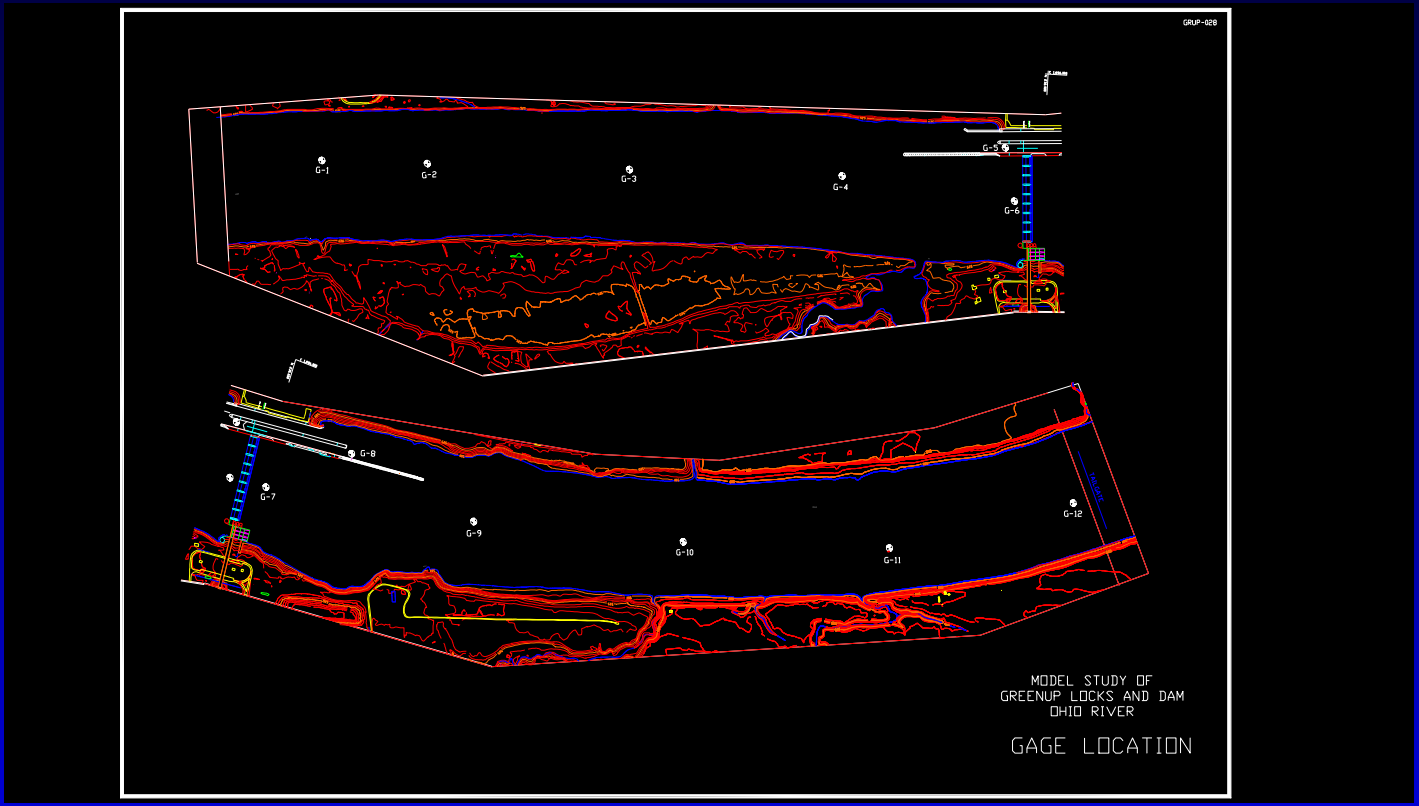
Water-Surface Elevations



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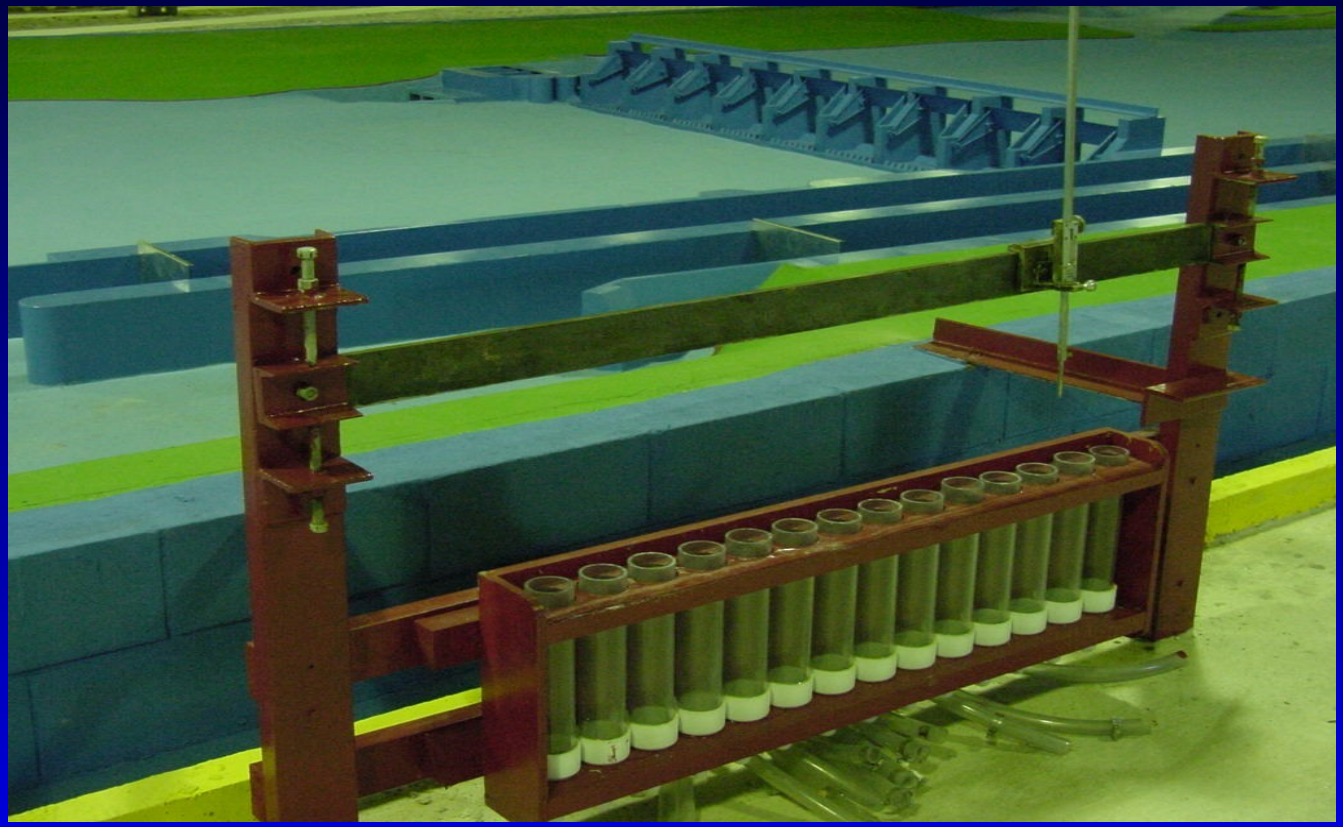
Water-Surface Elevations



Coastal and Hydraulics Laboratory

Video Tracking System

Coastal and Hydraulics Laboratory

Video Tracking System

Coastal and Hydraulics Laboratory

Video Tracking System

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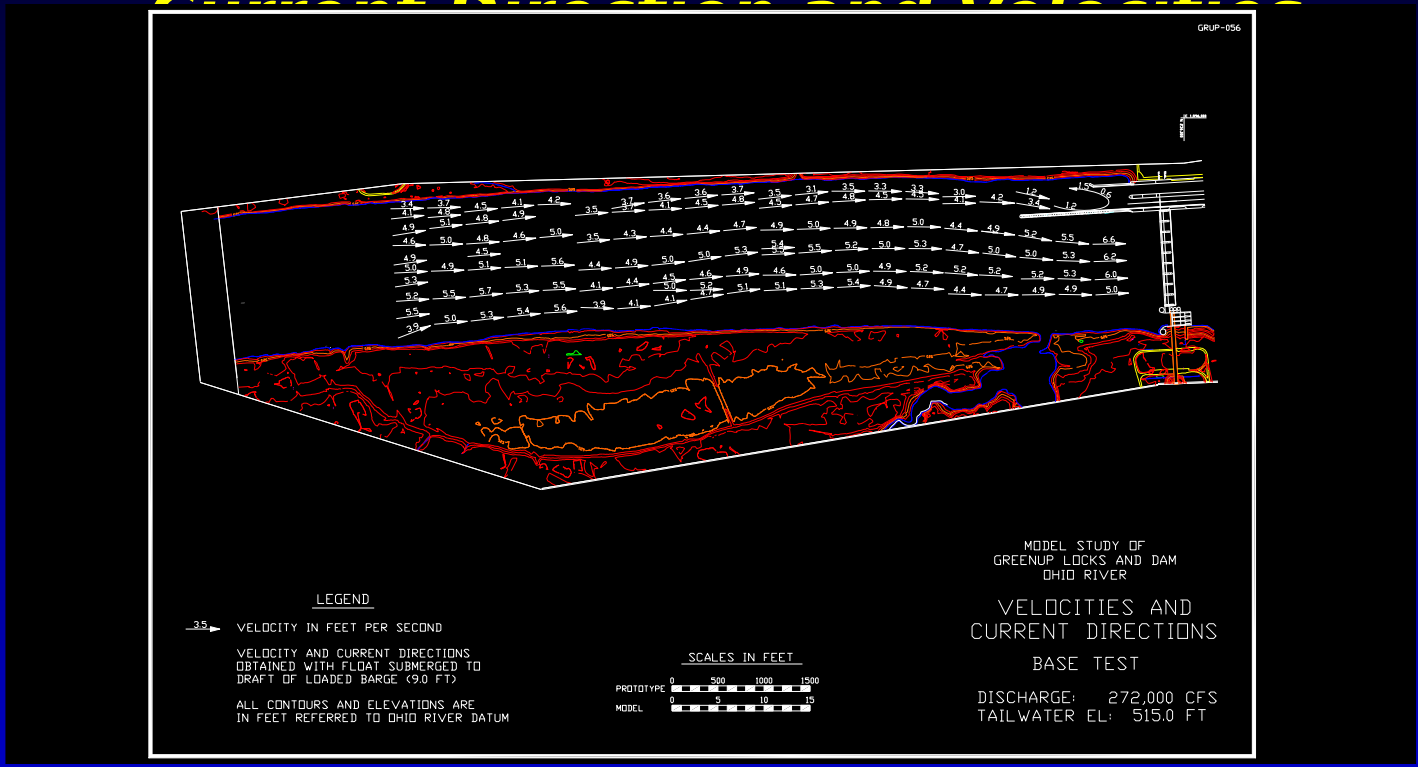
Current Direction and Velocities


GRUP-056
LEGEND
35 VELOCITY IN FEET PER SECOND
VELOCITY AND CURRENT DIRECTIONS OBTAINED WITH FLOAT SUBMERGED TO DRAFT OF LOADED BARGE (9.0 FT)
ALL CONTOURS AND ELEVATIONS ARE IN FEET REFERRED TO OHIO RIVER DATUM
SCALES IN FEET
PROTOTYPE 0 500 1000 1500
MODEL 0 5 10 15
MODEL STUDY OF
GREENUP LOCKS AND DAM
OHIO RIVER
VELOCITIES AND
CURRENT DIRECTIONS
BASE TEST
DISCHARGE: 272,000 CFS
TAILWATER EL: 515.0 FT

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Radio-Controlled Towboat

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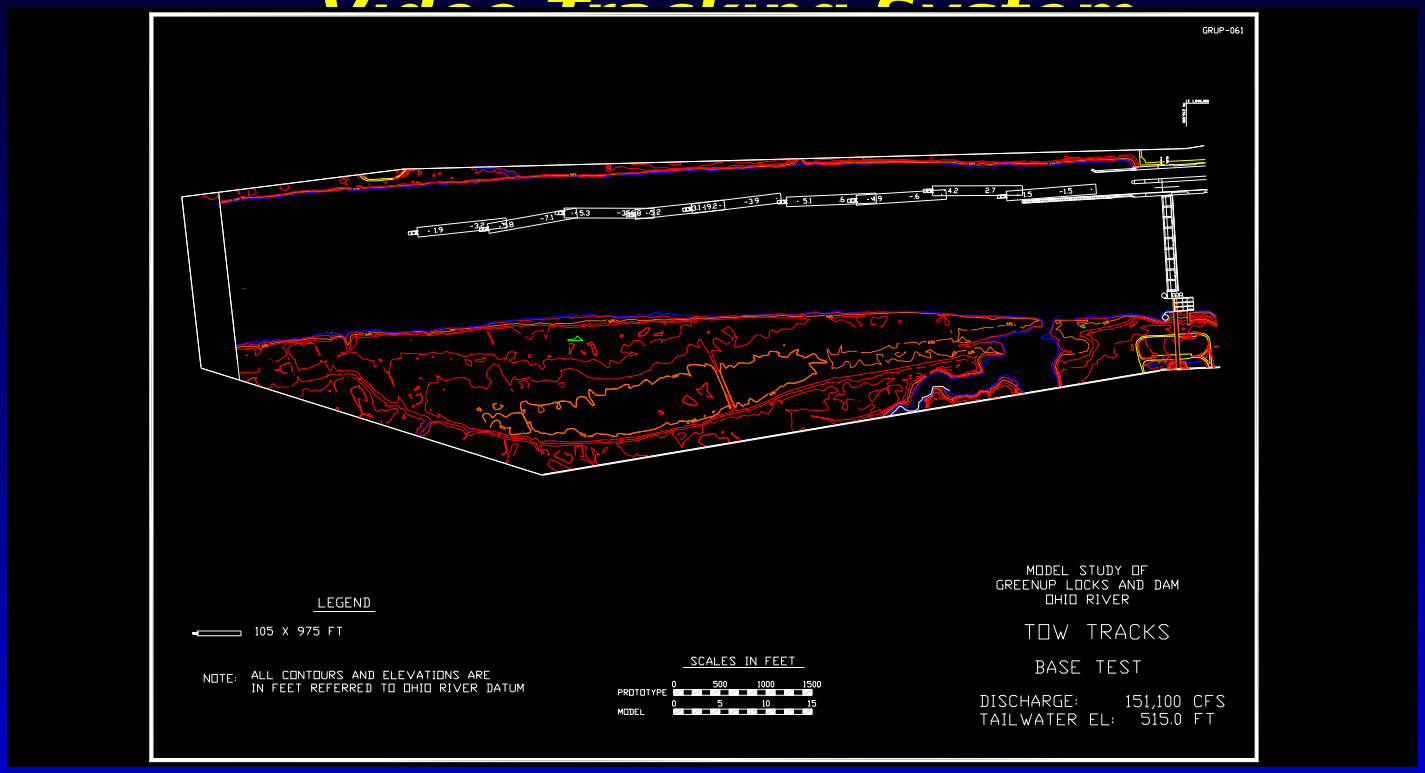
Radio-Controlled Towboat

Coastal and Hydraulics Laboratory

Video Tracking System



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Proposed Test Conditions

Discharge (cfs)	Upper Pool Elev. (feet)		Tailwater Elev. (feet)		Comment
	NGVD	Gage	NGVD	Gage	
36,600	515.0	12.0	488.5	15.5	Max Hydro
77,850	515.0	12.0	492.5	19.5	
151,100	515.0	12.0	500.3	27.3	
272,000	515.0	12.0	513.5	40.5	Open River
465,000	533.0	30.0	532.0	59.0	Max Nav

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Prototype Monitoring

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